***CELL DIVISION ANSWER KEY***

**Question 1.**

Describe the function of mitosis. List and describe the stages of mitosis. (13 marks)

**Function of Mitosis (3 marks – must have all points)**

* Produce 2 new cells
* Identical to the original/ parent cell
* Necessary for growth/ repair of damaged tissues

**Stages of Mitosis (10 marks – one for stage name, one for stage description)**

* Interphase Replication of chromosomes
* Prophase Chromosomes condense/nuclear membrane disappears
* Metaphase Chromosomes line up across centre of cell
* Anaphase Spindle contracts/chromosomes separate
* Telophase Nuclear membrane reappears/cell divides

**Total 13**

**Question 2)**

Describe the function of meiosis. List and describe the events in meiosis that make it different from mitosis. (7 marks)

**Function of Meiosis (3 marks – must have all points)**

* Produce four new daughter cells
* Contain half the normal number of chromosomes/ haploid cells
* Necessary to produce gametes/ sex cells/ for reproduction

**Events in meiosis that make it different from mitosis (4 marks)**

* Gene material between homologous chromosomes is exchanged/ crossing over occurs during Prophase I
* Pairing of homologous chromosomes/ formation of tetrads in Prophase I
* Independent assortment of homologous chromosomes in Metaphase I
* Two divisions occur

**Total 7**